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ROBERT M BAUER ESQ
BROWN RAYSMAN MILLSTEIN FELDER & STEINER
900 THIRD AVE
NEW YORK, NY 10022

EXAMINER

MILORD, MARCEAU

ART UNIT	PAPER NUMBER
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2682

DATE MAILED: 12/13/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/088,238

Applicant(s)

MELERO, JUAN

Examiner

Marceau Milord

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 August 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 24-46 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 24-46 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 August 2002 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Objections

1. Claim 45 is objected to because of the following informalities: In claim 45, page 5, line 3, "which " should be written as follows: "which"; In claim 46, page 6, line 11, "fo" should be written as follows: "to". Appropriate correction is required.

Priority

2. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 24-46 are rejected under 35 U.S.C. 103(a) as being unpatentable over Haartsen (US Patent No 54918370 in view of Sundelin et al (US Patent No 6144861) and Andersson et al (US Patent No 5594949).

Regarding claim 24, Haartsen discloses a method for reporting link information in a communication system (figs. 3-4) including a communication terminal (370 of fig. 3) and a

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plurality of transceivers with each of which the communication terminal can communicate over a respective communication link (col. 3, line 36- col. 4, line 7; col. 5, lines 11-67); the method comprising: the communication terminal determining link information for each of the communication links (col. 6, lines 1-col. 7, line 3); and the communication terminal periodically transmitting link message (col. 7, line 1-col. 8, line 53; col. 9, line 2- col. 10, line 61; col. 11, lines 1-64; col. 14, lines 21-60; col. 15, lines 1-61).

However, Haartsen does not specifically disclose the features of transmitting link message, each link message containing link information for a first set of the communication links, and the link messages being formatted such that groups of successive link messages collectively contain link information for a larger set of the communication links.

On the other hand, Sundelin et al, from the same field of endeavor, discloses a method for controlling the transmit power of a base station transmission to a mobile station. The base station receives a signal from the mobile station and determines a signal to interference ratio associated with the received signal. The base station controls its transmit power to the mobile station using the determined SIR value in conjunction with a transmit power control command received from the mobile station. When the mobile station is in the process of a soft handover involving two or more base stations, each of those base stations determines an SIR value associated with a signal received from the mobile station. Moreover, each of the base stations controls its respective power using both the power control command received from the mobile station and the SIR determined for that base station (col. 3, lines 3-60; col. 5, line 16- col. 6, line 64; col. 7, line 1- col. 8, line 41).

Andersson et al also shows in figures 4 and 5, a technique in which a channel is selected for measurement by a channel selector and received over an antenna. The signal strength of the channel is measured by the RSSI meter, which outputs the result to the controller. The controller can then report signal strength information to a base station either periodically or upon request from the base station. The system can also instruct the idle mobile stations regarding when reports should be sent informing the system of the measurements results and what information these reports should contain (col. 4, lines 11-59; col. 5, lines 18-47; col. 6, lines 3-65). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to apply the technique of Andersson to the modified system of Sundelin and Haartsen in order to estimate the interference on unused downlink channels prior to allocating a channel for a new call between a mobile station and a base station in a cellular telephone system.

Claims 25-26 contain similar limitations addressed in claim 24, and therefore are rejected under a similar rationale.

Regarding claim 27, Haartsen as modified discloses a method for reporting link information in a communication system (figs. 3-4) including a communication terminal (370 of fig. 3) and a plurality of transceivers with each of which the communication terminal can communicate over a respective communication link (col. 3, line 36- col. 4, line 7; col. 5, lines 11-67), wherein the subset consists of two communication links (fig. 3; col. 6, line 48- col. 7, line 65).

Regarding claim 28, Haartsen as modified discloses a method for reporting link information in a communication system (figs. 3-4) including a communication terminal (370 of fig. 3) and a plurality of transceivers with each of which the communication terminal can

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communicate over a respective communication link (col. 3, line 36- col. 4, line 7; col. 5, lines 11-67), wherein periodically link messages contain link information for the same ones of the communication links (col. 11, line 16- col. 12, line 32).

Regarding claim 29, Haartsen as modified discloses a method for reporting link information in a communication system (figs. 3-4) including a communication terminal (370 of fig. 3) and a plurality of transceivers with each of which the communication terminal can communicate over a respective communication link (col. 3, line 36- col. 4, line 7; col. 5, lines 11-67), wherein the communication terminal is capable of transmitting the link information in a plurality of schemes according to which link information is distributed between successive link messages (col. 9, line 3- col. 10, line 61).

Regarding claim 30, Haartsen as modified discloses a method for reporting link information in a communication system (figs. 3-4) including a communication terminal (370 of fig. 3) and a plurality of transceivers with each of which the communication terminal can communicate over a respective communication link (col. 3, line 36- col. 4, line 7; col. 5, lines 11-67), wherein the communication system includes a control unit coupled to the transceivers, and the method comprises the step of causing at least one of the transceivers to transmit a scheme selection signal to the communication terminal indicative of the one of the plurality of schemes to be used by the communication terminal (col. 6, line 48- col. 7, line 65; col. 10, lines 9-61).

Regarding claim 31, Haartsen as modified discloses a method for reporting link information in a communication system (figs. 3-4) including a communication terminal (370 of fig. 3) and a plurality of transceivers with each of which the communication terminal can

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communicate over a respective communication link (col. 3, line 36- col. 4, line 7; col. 5, lines 11-67), wherein the scheme selection signal is transmitted on a broadcast channel (col. 14, lines 28-60; col. 15, lines 1-41).

Regarding claim 32, Haartsen as modified discloses a method for reporting link information in a communication system (figs. 3-4) including a communication terminal (370 of fig. 3) and a plurality of transceivers with each of which the communication terminal can communicate over a respective communication link (col. 3, line 36- col. 4, line 7; col. 5, lines 11-67), wherein the scheme selection signal is transmitted as part of a system information message (col. 14, lines 28-60; col. 15, lines 1-41).

Regarding claim 33, Haartsen as modified discloses a method for reporting link information in a communication system (figs. 3-4) including a communication terminal (370 of fig. 3) and a plurality of transceivers with each of which the communication terminal can communicate over a respective communication link (col. 3, line 36- col. 4, line 7; col. 5, lines 11-67), comprising the step of operating the communication terminal in response to the scheme selection signal so as to use the scheme indicated by the scheme selection signal (col. 8, lines 10-53; col. 9, lines 15-58).

Regarding claim 34, Haartsen as modified discloses a method for reporting link information in a communication system (figs. 3-4) including a communication terminal (370 of fig. 3) and a plurality of transceivers with each of which the communication terminal can communicate over a respective communication link (col. 3, line 36- col. 4, line 7; col. 5, lines 11-67), wherein one of the schemes involves transmitting link information for a set of the communication links in alternate link messages (col. 9, line 3- col. 10, line 61).

Regarding claim 35, Haartsen as modified discloses a method for reporting link information in a communication system (figs. 3-4) including a communication terminal (370 of fig. 3) and a plurality of transceivers with each of which the communication terminal can communicate over a respective communication link (col. 3, line 36- col. 4, line 7; col. 5, lines 11-67), wherein one of the schemes involves transmitting link information for a set of the communication links in every third link message (col. 10, line 10, line 7-col. 11, line 45).

Regarding claim 36, Haartsen as modified discloses a method for reporting link information in a communication system (figs. 3-4) including a communication terminal (370 of fig. 3) and a plurality of transceivers with each of which the communication terminal can communicate over a respective communication link (col. 3, line 36- col. 4, line 7; col. 5, lines 11-67), wherein the link messages are transmitted over at least one of the said communication links (col. 11, line 16- col. 12, line 32).

Regarding claim 37, Haartsen as modified discloses a method for reporting link information in a communication system (figs. 3-4) including a communication terminal (370 of fig. 3) and a plurality of transceivers with each of which the communication terminal can communicate over a respective communication link (col. 3, line 36- col. 4, line 7; col. 5, lines 11-67), wherein each link message is sent in a respective multi-frame of communications over the said communication links (col. 10, line 10, line 7-col. 11, line 45).

Regarding claim 38, Haartsen as modified discloses a method for reporting link information in a communication system (figs. 3-4) including a communication terminal (370 of fig. 3) and a plurality of transceivers with each of which the communication terminal can communicate over a respective communication link (col. 3, line 36- col. 4, line 7; col. 5, lines

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11-67), wherein each link message contains link information of six of the communication links (col. 11, line 16- col. 12, line 32).

Regarding claim 39, Haartsen as modified discloses a method for reporting link information in a communication system (figs. 3-4) including a communication terminal (370 of fig. 3) and a plurality of transceivers with each of which the communication terminal can communicate over a respective communication link (col. 3, line 36- col. 4, line 7; col. 5, lines 11-67), wherein the link information for a communication link is indicative of the quality of communications over that link (col. 8, lines 10-53; col. 9, lines 15-58).

Regarding claim 40, Haartsen as modified discloses a method for reporting link information in a communication system (figs. 3-4) including a communication terminal (370 of fig. 3) and a plurality of transceivers with each of which the communication terminal can communicate over a respective communication link (col. 3, line 36- col. 4, line 7; col. 5, lines 11-67), comprising the steps of receiving the link information and making a handover decision for the communication terminal on the basis of the link information (col. 8, lines 10-53; col. 9, lines 15-58).

Regarding claim 41, Haartsen as modified discloses a method for reporting link information in a communication system (figs. 3-4) including a communication terminal (370 of fig. 3) and a plurality of transceivers with each of which the communication terminal can communicate over a respective communication link (col. 3, line 36- col. 4, line 7; col. 5, lines 11-67), comprising the step of the communication terminal signaling that it is capable of operating so as to transmit successive link messages, containing link information for different ones of the communication links (col. 6, line 48- col. 7, line 65; col. 10, lines 9-61).

Regarding claim 42, Haartsen as modified discloses a method for reporting link information in a communication system (figs. 3-4) including a communication terminal (370 of fig. 3) and a plurality of transceivers with each of which the communication terminal can communicate over a respective communication link (col. 3, line 36- col. 4, line 7; col. 5, lines 11-67), wherein the step of the communication terminal signaling that is capable of operating so as to transmit successive link messages containing link information for different ones of the communication links is performed on establishments by the communication terminal of a connection with the system (col. 6, line 48- col. 7, line 65; col. 10, lines 9-61).

Regarding claim 43, Haartsen as modified discloses a method for reporting link information in a communication system (figs. 3-4) including a communication terminal (370 of fig. 3) and a plurality of transceivers with each of which the communication terminal can communicate over a respective communication link (col. 3, line 36- col. 4, line 7; col. 5, lines 11-67), wherein the communication terminal is a radio telephone (col. 6, lines 30-67).

Regarding claim 44, Haartsen as modified discloses a method for reporting link information in a communication system (figs. 3-4) including a communication terminal (370 of fig. 3) and a plurality of transceivers with each of which the communication terminal can communicate over a respective communication link (col. 3, line 36- col. 4, line 7; col. 5, lines 11-67), wherein each transceiver is a base station transceiver of a radio telephone system (col. 5, lines 19-57; col. 6, lines 30-67).

Regarding claim 45, Haartsen discloses a communication system (figs. 3-4) comprising: a communication terminal (370 of fig. 3); a plurality of transceivers with each of which the communication terminal can communicate over a respective communication link (col. 3, line 36-

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col. 4, line 7; col. 5, lines 11-67); the communication terminal comprising link measurement means for measuring link information for each of the communication links (col. 6, lines 1-col. 7, line 3); transmission means for periodically transmitting link messages(col. 7, line 1-col. 8, line 53; col. 9, line 2- col. 10, line 61; col. 11, lines 1-64; col. 14, lines 21-60; col. 15, lines 1-61).

However, Haartsen does not specifically disclose the features of transmission means for periodically transmitting link messages, each link message containing link information for a first set of the communication links; and link message forming means for forming the link messages such that groups of successive link messages collectively contain link information for a larger set of the communication links.

On the other hand, Sundelin et al, from the same field of endeavor, discloses a method for controlling the transmit power of a base station transmission to a mobile station. The base station receives a signal from the mobile station and determines a signal to interference ratio associated with the received signal. The base station controls its transmit power to the mobile station using the determined SIR value in conjunction with a transmit power control command received from the mobile station. When the mobile station is in the process of a soft handover involving two or more base stations, each of those base stations determines an SIR value associated with a signal received from the mobile station. Moreover, each of the base stations controls its respective power using both the power control command received from the mobile station and the SIR determined for that base station (col. 3, lines 3-60; col. 5, line 16- col. 6, line 64; col. 7, line 1-col. 8, line 41).

Andersson et al also shows in figures 4 and 5, a technique in which a channel is selected for measurement by a channel selector and received over an antenna. The signal strength of the

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channel is measured by the RSSI meter, which outputs the result to the controller. The controller can then report signal strength information to a base station either periodically or upon request from the base station. The system can also instruct the idle mobile stations regarding when reports should be sent informing the system of the measurements results and what information these reports should contain (col. 4, lines 11-59; col. 5, lines 18-47; col. 6, lines 3-65). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to apply the technique of Andersson to the modified system of Sundelin and Haartsen in order to estimate the interference on unused downlink channels prior to allocating a channel for a new call between a mobile station and a base station in a cellular telephone system.

Regarding claim 46, Haartsen discloses a communication terminal for operation in a radio telecommunications system (figs. 3-4), the terminal (370 of fig. 3) comprising: communication means for communicating with one or more of a plurality of radio transceivers (col. 3, line 36- col. 4, line 7; col. 5, lines 11-67); measurement means for measuring a quality of signals received from each of the said transceivers over a respective communication link (col. 6, lines 1-col. 7, line 3); and measurement message generation means for generating measurement messages for transmission by the communication means (col. 7, line 1-col. 8, line 53; col. 9, line 2- col. 10, line 61; col. 11, lines 1-64; col. 14, lines 21-60; col. 15, lines 1-61).

However, Haartsen does not specifically disclose the features of a means for generating measurement messages, each measurement message containing measured quality information for a first set of the communication links; the measurement message generation means being capable of generating a series of measurements messages wherein groups of successive measurement

messages collectively contain measured quality information to a larger set of the communication links.

On the other hand, Sundelin et al, from the same field of endeavor, discloses a method for controlling the transmit power of a base station transmission to a mobile station. The base station receives a signal from the mobile station and determines a signal to interference ratio associated with the received signal. The base station controls its transmit power to the mobile station using the determined SIR value in conjunction with a transmit power control command received from the mobile station. When the mobile station is in the process of a soft handover involving two or more base stations, each of those base stations determines an SIR value associated with a signal received from the mobile station. Moreover, each of the base stations controls its respective power using both the power control command received from the mobile station and the SIR determined for that base station (col. 3, lines 3-60; col. 5, line 16- col. 6, line 64; col. 7, line 1- col. 8, line 41).

Andersson et al also shows in figures 4 and 5, a technique in which a channel is selected for measurement by a channel selector and received over an antenna. The signal strength of the channel is measured by the RSSI meter, which outputs the result to the controller. The controller can then report signal strength information to a base station either periodically or upon request from the base station. The system can also instruct the idle mobile stations regarding when reports should be sent informing the system of the measurements results and what information these reports should contain (col. 4, lines 11-59; col. 5, lines 18-47; col. 6, lines 3-65). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to apply the technique of Andersson to the modified system of Sundelin and Haartsen in order to

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estimate the interference on unused downlink channels prior to allocating a channel for a new call between a mobile station and a base station in a cellular telephone system.

Conclusion

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Gunnarsson et al US Patent No 6493541 B1 discloses a radio transmit power control in a mobile radio communications system.

Almgren et al US Patent No 5574974 discloses an adaptive channel allocation in a mobile communications system.

Hottinen et al US Patent No 5862124 discloses a method for interference cancellation in a cellular CDMA network.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Marceau Milord whose telephone number is 703-306-3023. The examiner can normally be reached on Monday-Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vivian C. Chin can be reached on 703-308-6739. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

MARCEAU MILORD

Marceau Milord
Examiner
Art Unit 2682


MARCEAU MILORD
PRIMARY EXAMINER

11-9-04